WHAT IS CLAIMED IS:

1. A microcolumn, comprising:

an assembly substrate including a plurality of sockets; and

a plurality of beam modification components each having a connector coupled to a corresponding one of the plurality of sockets.

2. The microcolumn of claim 1 wherein the plurality of beam modification components includes a beam focusing component.

3. The microcolumn of claim 1 wherein the plurality of beam modification components includes a beam spreading component.

4. The microcolumn of claim 1 wherein the plurality of beam modification components includes a beam steering component.

5. The microcolumn of claim 1 wherein the plurality of beam modification components includes a beam resizing component.

6. The microcolumn of claim 1 wherein the plurality of beam modification components includes an extractor component.

7. The microcolumn of claim 1 wherein the plurality of beam modification components includes an anode component.

8. The microcolumn of claim 1 wherein the plurality of beam modification components includes an octupole component.

9. The microcolumn of claim 1 wherein the plurality of beam modification components includes a quadrupole component.

10. The microcolumn of claim 1 wherein the plurality of beam modification components includes a blanker component.

11. The microcolumn of claim 1 wherein the plurality of beam modification components includes an aperture component.

12. The microcolumn of claim 1 wherein the plurality of beam modification components includes an Einzel lens component.

13. The microcolumn of claim 1 wherein one of the plurality of beam modification components includes a beam deflection component comprising:

a component substrate having:

a connector coupled to one of the plurality of sockets on the assembly substrate; and

a plurality of component sockets formed in the component substrate; and

a plurality of biasing members each having a biasing member connector coupled to a corresponding one of the plurality of component sockets.

14. The microcolumn of claim 1 wherein the plurality of beam modification components includes:

an extractor component;

a focusing electrode component offset from the extractor component in a direction;

an anode component offset from the focusing electrode component in the direction;

a multi-pole component offset from the anode component in the direction, the multi-pole component selected from the group consisting of an octupole component and a quadrupole component;

an aperture component offset from the multi-pole component in the direction;

a first deflector component offset from the aperture component in the direction;

a second deflector component offset from the first deflector component in the direction; and

a plurality of Einzel lens components each offset from the second deflector component in the direction.

15. The microcolumn of claim 1 wherein the plurality of beam modification components are each substantially perpendicular to the assembly substrate.

16. The microcolumn of claim 1 wherein the plurality of beam modification components are each substantially planar.

17. The microcolumn of claim 1 wherein the plurality of beam modification components and the assembly substrate are fabricated from common material layers formed over a handle substrate prior to assembly.

18. The microcolumn of claim 1 wherein the assembly substrate includes a plurality of traces and ones of the plurality of beam modification components include electrodes electrically coupled to corresponding ones of the plurality of traces.

19. The microcolumn of claim 1 wherein the connectors of ones of the plurality of beam modification members form electrical connections with corresponding ones of the plurality of sockets.

20. The microcolumn of claim 1 wherein the assembly substrate and ones of the plurality of beam modification components comprise doped silicon.

21. The microcolumn of claim 1 wherein the assembly substrate and ones of the plurality of beam modification components include electrical traces comprising a material selected from the group consisting of:

gold; and

platinum.

22. The microcolumn of claim 1 wherein the plurality of beam modification components collectively spans a distance of about 10 mm or less.

23. The microcolumn of claim 1 wherein each of the plurality of beam modification components have a thickness of about 50 μm.

24. The microcolumn of claim 1 wherein the plurality of beam modification components each have a footprint of less than about 2 cm^2.

25. The microcolumn of claim 1 wherein the plurality of beam modification components each have a footprint of about 1 cm^2.

26. The microcolumn of claim 1 further comprising a clamp including:

an extension member;

a first connector coupled to a first end of the extension member and engaged with one of the plurality of sockets on the assembly substrate; and

a second connector coupled to a second end of the extension member and engaged with one of the plurality of beam modification components.

27. The microcolumn of claim 1 wherein the microcolumn is included in a system employed for electron beam lithography.

28. The microcolumn of claim 1 wherein the microcolumn is included in a system employed for mass spectroscopy.

29. The microcolumn of claim 1 wherein the microcolumn is included in a system employed for scanning electron microscopy (SEM).

30. A clamp for use with a MEMS component coupled to a MEMS substrate, comprising:

an extension member;

a first connector coupled to a first end of the extension member and configured to engage a socket on the MEMS substrate; and

a second connector coupled to a second end of the extension member and configured to engage a feature of the MEMS component.

31. The clamp of claim 30 wherein the extension member is a first extension member and the socket is a first socket, the clamp further comprising:

a second extension member having a first end coupled to the second connector; and

a third connector coupled to a second end of the second extension member and configured to engage a second socket on the MEMS substrate.

32. A method of manufacturing a microcolumn, comprising:

providing a substrate having a device layer formed over an insulating layer;

removing portions of the device layer to form therein:

an assembly substrate having a plurality of sockets; and

a plurality of beam modification components each having a connector;

releasing the plurality of beam modification components; and

assembling the plurality of beam modification components to the assembly substrate by coupling the connectors of the plurality of beam modification components to corresponding ones of the plurality of sockets.

33. The method of claim 32 wherein assembling the plurality of beam modification components employs automation.

34. The method of claim 32 wherein assembling the plurality of beam modification components employs automated calibration.

35. The method of claim 32 wherein assembling the plurality of beam modification components employs automated motion of robotic stages in a substantially automated manner.

36. A microcolumn system, comprising:

an electron gun; and

a microcolumn substantially aligned with the electron gun for modifying an electron beam produced by the electron gun, the microcolumn including:

an assembly substrate including a plurality of sockets; and

a plurality of beam modification components each having a connector coupled to a corresponding one of the plurality of sockets.

37. The system of claim 36 further comprising a specimen chamber for housing a specimen to be examined by the system, the specimen chamber including a detector for detecting attributes of the specimen based on interaction between the electron beam and the specimen.

38. The system of claim 36 wherein the attributes of the specimen include geometric dimensions of a feature of the specimen.

39. The system of claim 36 wherein the attributes of the specimen include a composition of at least a portion of the specimen.

40. The system of claim 36 wherein the system is employable for electron beam lithography.

41. The system of claim 36 wherein the system is employable for mass spectroscopy.

42. The system of claim 36 wherein the system is employable for scanning electron microscopy.